Superfoods Fact Sheet
Mango
(Mangifera Indica)

**Parts used:** Fruit

A tropical fruiting tree that originated in India, mango is now popular worldwide, and belongs to the family Anacardiaceae, which includes both cashews and pistachios. It has both a spiritual and medicinal significance to the extent that it is the national fruit of four Asian countries.

Known as the ‘King of Fruit’, if you’ve ever had a mango it is easy to see why. They are also a ‘high volume’ food, containing a high percentage of water so the ratio of calories to weight is relatively low – 135 calories on average per mango.

### Historic and Traditional Uses

Originating in the foothills of the Himalayas around 4,000BC, mangos have spread through the tropical regions of the world and are now grown in Southern and Southeast Asia as well as Southern and Central America, Africa and the Arabian peninsula. There are now over 1,000 different varieties of mango throughout the world.

Called ‘the King of Fruits’ its beneficial qualities have long been recognised. Called ‘safeda’ in its native India, the name mango was given to the fruit by the Portuguese. They brought it to Brazil in the 1700s, and from there it spread into the Western World.

The mango tree has a place in religious history as the Buddha was given a mango grove within which to find ‘repose in its grateful shade’.

In Unani medicine, (a traditional Muslim medicine) mangos were used to remove toxins, treat anaemia and help the nervous system, whilst Ayurvedic medicine uses the dried mango flower to treat diarrhea and dysentery, as well as urinary tract infections. Other uses of mango in traditional medicine include eye disorders, blood disorder, heat stroke, digestion, diabetes, skin disorders and improving bilious disorders.

All parts of the tree are used – leaves, roots, seeds and bark as well as the fruit and have all been shown to be helpful.

### Health Benefits

Due to their high levels of vital nutrients, bioactive compounds and fibre mangos have a long traditional use for health benefits, and scientific research is beginning to confirm some of these uses.
**Cancer Prevention**

Antioxidant compounds have been closely studied for their benefits in both cancer prevention and fighting cancerous cells. The compounds found in mangos have so far been studied in relation to colon, breast, and prostate cancers as well as leukaemia. In one in vitro study on colon cancer cells, the polyphenols in mangos were found to inhibit the growth of cancerous cells by around 72%. Further research is currently on-going in a human clinical trial.

A further study by Dr Susanne Mertens-Talcott, examined the effects of polyphenols found in fresh mangos on cancerous and non-cancerous breast cells, finding that they limited the inflammatory response in both types of cells. Other studies are looking at their anti-tumour effects.

**Bone Density & Diabetes**

Loss of bone density leads to osteoporosis and is a recognised side effect of the drug rosiglitazone related to type II diabetes, as well as being a risk of menopause. In laboratory studies mangos have been shown to improve glucose levels in mice without the side effects of bone loss associated with taking rosiglitazone.

An animal study by Edralin Lucas of Oklahoma State University has shown that mango in the diet can contribute to reducing body fat, as well as helping to control blood sugar. The findings also demonstrated that mango flesh could be a promising alternative to lipid-lowering drugs, as it helps reduce the circulating blood level of leptin, which plays a key role in the regulation of appetite.

**Other Benefits**

Although research using mangos specifically is not prolific, their levels of antioxidant compounds have been confirmed, and it must not be forgotten when considering the health benefits of mangos they many uses of antioxidants in the body. They fight free radicals within the body which can lead to damage to DNA, and also act at an anti-inflammatory level. Inflammation underpins many disease pictures in the body, and contributes to ageing.

High in Vitamin C, which is required for good skin and connective tissue, and mango is considered to be beneficial, both internally and externally, for the skin. The high Vitamin C levels, as well as high fibre content have also contributed to mangos being considered beneficial for lowering high cholesterol levels. Vitamin C will also have a beneficial effect on the immune system.

Helpful enzymes in mangos have been used to improve digestive function, and the fibre content improves elimination, whilst the tartaric acid, malic acid and a trace of citric acid found in mangos all help to improve the alkaline reserve within the body, thereby helping to improve body pH and cleansing.

Rich in Vitamin A, a vitamin required for eye health, mangos are also reputed to keep the eyes healthy and contribute to good night vision.

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1 Dr S Talcott & Dr S Talcott, Phytochemical Attributes contributing to the health-promoting benefits of mangos; Texas AM & M University 2008/09
3 Dr Lucas E, The effect of mango on bone parameters; Oklahoma State University collab. USDA ARS, Ok.
There is also some research which suggests that the unique compound mangiferin can help to improve heart function, as well as helping to prevent tumour growth, although more research is required to confirm this. Mangiferin also acts as a mild diuretic.

Mango is also said to be an excellent sleep aid, quickly helping to replace depleted neurotransmitters and enabling a good night’s sleep. It is best eaten just before bed.

**Nutritional Value**

Mango has a place near the top of functional foods known as ‘super fruits’ due to high content of important nutrients.

Like many fruits mango is rich in antioxidant compounds which include polyphenolic compounds such as:

- Quercetin
- Isoquercitrin
- Astragalin
- Fisetin
- Gallic acid
- Methyl gallate
- Kaempferol
- Caffeic acid
- Tannins
- Catechins

Mangos have also been found to contain a unique xanthonoid, mangiferin. They are also considered to be one of the better sources of both Vitamin C and Vitamin E, as well as beta-carotene and other carotenoids such as alpha-carotene, lutein and beta-cryptoxanthin – all important antioxidants as well. So it is not surprising therefore that they score highly for antioxidant activity. In fact, up to 25 different carotenoids have been found in mangos, but these vary from species to species.

In addition to this mangoes are also rich in certain minerals such as copper, manganese and zinc and have also been considered a reasonable source of iron, calcium, phosphorus and magnesium. They have also been found to contain high levels of Vitamin B6, which is essential for the production of GABA, an enzyme which acts as a neurotransmitter and has a calming effect.

They are also a good fibre source and are rich in pre-biotic dietary fibre, helping with both intestinal balance and elimination, and also a good source of enzymes, making them an ideal tenderising marinade.

Mangos have an ORAC (oxygen radical absorbance capacity) of 4500 µmol TE per 100 gms.

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**Per 100 mg**

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Calcium</td>
<td>110 mg</td>
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<tr>
<td>Iron</td>
<td>0.16 mg</td>
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<tr>
<td>Magnesium</td>
<td>10 mg</td>
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<tr>
<td>Phosphorus</td>
<td>14 mg</td>
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<tr>
<td>Potassium</td>
<td>168 mg</td>
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<tr>
<td>Sodium</td>
<td>1 mg</td>
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<tr>
<td>Zinc</td>
<td>0.09 mg</td>
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<tr>
<td>Vitamin C</td>
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<tr>
<td>B1</td>
<td>0.028 mg</td>
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<tr>
<td>B2</td>
<td>0.038 mg</td>
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<tr>
<td>B3</td>
<td>0.669 mg</td>
</tr>
<tr>
<td>B6</td>
<td>0.119 mg</td>
</tr>
<tr>
<td>Folic acid</td>
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</tr>
<tr>
<td>Vitamin A</td>
<td>1082 iu</td>
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<tr>
<td>Vitamin E</td>
<td>0.9 mg</td>
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<tr>
<td>Vitamin K</td>
<td>4.2 µg</td>
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<tr>
<td>Choline</td>
<td>7.6 mg</td>
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Source: USDA National Nutrient Database

**Tips**

You can hasten the ripening of a mango by putting it in a paper bag. It is considered ripe when the flesh yields to gentle pressure. It should have a full, fruity aroma. Mangoes bruise easily so they are best bought hard and ripened at home.

Mangos can be used green, (usually shredded in salads) and have more Vitamin C and more pectin in this state, but have a very sour taste.

The best way to freeze mango for use in smoothies and desserts is to puree it first.

For noticeable health benefits eat two mangoes a day.